**Liberty War Bird Association**
***Educate Honor Restore***

# VOLUME 3
# PILOT AND CREW CHIEF
# TRAINING AND QUALIFICATION
# MANUAL

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## Contents

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# Chapter 1
# Introduction

## 1-1. Purpose

This document establishes the Liberty War Bird Association's (LWBA) Pilot Training and Qualifications Manual.

## 1-2. Revision Control

Revisions will be prepared by the Director of Operations. Revision control is accomplished using sequential revision numbering and date **(Rev 0: 1/10/2022)** placed in the upper right corner of the page.

A section entitled (Revisions) lists all revisions to the manual.

New or changed material in the latest revision is indicated by a vertical bar in the margin.

## 1-3. Rotorcraft Flight Manual

U.S. Army Technical Manual 55-1520-210-10 "Operators Manual Army Models UH-1H/V Helicopter" is used as the rotorcraft flight manual and may be referred to as the UH-1 Operators Manual or -10. U.S. Army Technical Manual ™ 55-1520-210-10 Checklist (CL) is the approved checklist. Supplemental equipment may require checklist modification.

Note: Technical Manual (TM) 55-1520-210-10 "Operators Manual Army Models UH-1H/V Helicopter" document organization conforms to US Army Operators Manual composition and organization standards.

## 1.4. Applicability

The training program is limited to supporting LWBA initial and recurrent training. It does not support flight instruction for the purpose of obtaining a pilot certificate or rating.

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# Chapter 2
# Training Programs

## 2-1. General.

This training program encompasses pilot-in-command (PIC) initial and recurrent training.

Per U.S. Army TM 55-1520-210-10 paragraph 5-4, the minimum crew required to fly the UH-1 helicopter is one pilot whose station is in the right seat. Additional personnel may be added at the discretion of LWBA President to perform training flights, maintenance functional check flights, and ferry flights (cross-country flights, or flights to reposition the helicopter).

When performing static displays, fly overs, and Living History Flight Experience (LHFE) rides, the minimum crew consists of an LWBA designated pilot-in-command.

U.S. Army Training Circular (TC) Number 1-211 Aircrew Training Manual Utility Helicopter, UH-1H/V Series 16 May 2007 available on the U.S. Army Publishing Directorate website https://armypubs.army.mil/ contains UH-1H specific information relevant to the LWBA training program.

## 2-2. Record keeping

All ground and flight training and testing shall be documented and recorded. Record shall contain the following:

a. Date of each training or testing session.
b. The amount of time spent for each session of training given.
c. Location where each session of training was given.
d. The name and certificate number of the instructor who provided each session of training.
e. The name and certificate number of the pilot who provided each session of testing.
f. For verification purposes, the signature and printed name of the person who received the training or testing. See Appendix A – Forms Pilot and Crew Chief Training Record.

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# Chapter 3
# Flight Crew Training

**3-1. Indoctrination Training** familiarizes volunteer flight crew with LWBA operational requirements. It serves as a basis for subsequent training. Indoctrination training consists of familiarization with LWBA mission, FAA airworthiness certification, letter of authorization, operating limitations, exemption provisions and applicable LWBA procedures and standards contained in LWBA manuals.

Pilot. Prospective LWBA pilot selection is based on previous training and experience.

Pilot-in-command eligibility requires the pilot to possess at least an FAA commercial pilot certificate with a rotorcraft – helicopter category and class rating, a second-class medical certificate, and meet current insurance aeronautical experience requirements, current flight review, completion of initial or recurrent training, completion of a proficiency check.

Crew chief eligibility is based on previous training and experience. While previous US Army non-rated crew member experience is preferred, individuals with aircraft maintenance experience may be considered.

Flight crew designation is accomplished using memorandum signed by the Liberty War Bird Association Director of Standards/Chief Pilot and President. See **Appendix A – Forms Flight Crew Designation Memorandum**.

**3-2. Emergency Training** shall be conducted during initial and recurrent training using UH-1H Operators Manual U.S. Army Technical Manual 55-1520-210-10 and UH-1H Checklist U.S. Army Technical Manual 55-1520-210-10 CL.

a. Immediate action steps should be committed to memory.

b. Except autorotation/simulated engine failure at a hover, autorotation/simulated engine failure shall terminate either with power recovery or termination to hover. Hydraulics off and simulated anti-torque malfunction shall terminate with a low approach. Running landing requires skid shoe installation.

c. Pilot emergency procedures and malfunction analysis topics:

- Emergency terms and their definitions
- Emergency exits and equipment
- Minimum rate of descent
- Maximum glide distance
- Engine malfunctions
- Transmission malfunctions
- Tail rotor malfunctions
- Drive system malfunctions
- Fire
- Hydraulic system malfunctions
- Flight control malfunctions
- Rotor system malfunctions
- Fuel system malfunctions
- Electrical system malfunctions
- Landing and ditching procedures
- Autorotational glide characteristics
- Height velocity diagram
- Caution and Warning emergency procedures

d. Crew chief emergency procedures and malfunction analysis topics:

- Emergency terms and their definitions
- Emergency exits and equipment
- Fire
- Landing and ditching procedures
- Equipment malfunctions

**3-3. Crew Resource Management (CRM) Training** is based on the U.S. Army's "Aircrew Coordination Training – Enhanced" (ACT-E) training program described in U.S. Army Training Circular (TC) 1-211 Aircrew Training Manual Utility Helicopter, UH-1H/V Series.

Broadly defined, aircrew coordination is the interaction between crewmembers necessary for the safe, efficient, and effective task performance. The essential elements of crew coordination are described below.

Communicate positively. Communication is positive when the sender directs, requests, announces, or offers. The receiver acknowledges and the sender confirms (based on received acknowledgement) or corrects action. Communications should be quick and clearly understood using limited vocabulary of explicit terms and phrases so actions can be made in a timely manner.

a. Direct assistance. Crewmembers will direct assistance when unable to maintain aircraft control or unable to troubleshoot aircraft systems without assistance. The pilot flying will divert his attention from outside the aircraft to inside for momentary cross-check of aircraft systems.

b. Announce actions. To ensure effective and well-coordinated actions in the aircraft, all crewmembers must be aware of the expected movements and unexpected individual actions. Each crewmember will announce any actions that affect the actions of the other crewmembers.

c. Offer assistance. When the pilot flying demonstrates difficulty in aircraft control or deviates from normal or expected actions, crewmembers will offer assistance. This includes anytime information or assistance is requested or anytime a crewmember sees or recognizes anything that poses a hazard to flight.

d. Acknowledge actions. Similar to positive communication this must include supportive feedback to ensure crewmembers correctly understand. The preferred method of acknowledgement is to repeat critical parts of the message.

e. Be explicit. Crewmembers should use clear terms and phrases and positively acknowledge critical information. They must avoid using terms that have multiple meanings, such as “Right,” “Back up,” or “I have it.” Crewmembers must also avoid using indefinite modifiers such as, “Do you see that tree?” or “You are coming in a little fast.”

f. Provide aircraft control and obstacle advisories. Although the pilot flying is responsible for aircraft control, the other crewmembers may need to provide aircraft control information regarding altitude, airspeed, and heading. Hazard identification and avoidance is the responsibility of all crewmembers.

g. Coordinate action sequence and timing. The proper sequencing, timing, and interaction of machine, crew, and environment help ensure that the actions of one crewmember mesh with the actions of the other crewmembers to successfully execute a task.

**3-4. Crew Coordination Basic Qualities.** The crew coordination elements are further broken down into a set of thirteen basic qualities. Each basic quality is defined in terms of observable behaviors. The paragraphs below summarize these basic qualities.

a. Flight team leadership and crew climate are established and maintained. This quality addresses the relationships among the crew and the overall climate of the flight deck. Aircrews are teams with a designated leader and clear lines of authority and responsibility. The pilot in command sets the tone for the crew and maintains the working environment. Effective leaders use their authority but do not operate without the participation of other crewmembers. When crewmembers disagree on a course of action, they must be effective in resolving the disagreement. Specific goals include the following:

(1) The pilot in command actively establishes an open climate where crewmembers freely talk and ask questions.
(2) Crewmembers value each other for their expertise and judgment. They do not allow differences in rank and experience to influence their willingness to speak up.
(3) Alternative viewpoints are a normal and occasional part of crew interaction. Crewmembers handle disagreements in a professional manner, avoiding personal attacks or defensive posturing.

(4) The pilot in command actively monitors the attitudes of crewmembers and offers feedback when necessary. Each crewmember displays the proper concern for balancing safety with flight accomplishment.

b. Pre-flight preparation and rehearsal are accomplished. Pre-preparation planning includes all preparatory tasks associated with planning the flight request. They also include assigning crewmember responsibilities and conducting all required briefings and “brief-backs.” Pre-flight rehearsal involves the crew’s collectively visualizing and discussing expected and potential unexpected events for the entire flight. Through this process, all crewmembers think through contingencies and actions for difficult segments or unusual events associated with the flight and develop strategies to cope with contingencies. Specific goals include the following:

(1) The pilot in command ensures that all actions, duties, and responsibilities are partitioned and clearly assigned to specific crewmembers. Each crewmember actively participates in the pre-flight planning process to ensure a common understanding of flight request operational sequence. The pilot in command prioritizes planning activities so that critical items are addressed within the available planning time.

(2) The crew identifies alternate courses of action in anticipation of potential environmental or helicopter changes and is fully prepared to implement contingency plans as necessary. Crewmembers mentally rehearse the entire flight request by visualizing and discussing potential problems, contingencies, and responsibilities.

(3) The pilot in command ensures that crewmembers take advantage of periods of low workload to rehearse upcoming flight segments. Crewmembers continuously review remaining flight segments to identify required adjustments. Their planning is consistently ahead of critical lead times.

c. Appropriate decision-making techniques are applied. Decision-making is the act of rendering a solution to a problem and defining a plan of action. It must involve risk assessment. The quality of the decision making and problem solving throughout the planning and execution phases of the flight request depends on the information available, time constraints, and level of involvement and information exchange among crewmembers. The crew’s ability to apply appropriate decision-making techniques based on these criteria has a major impact on the choice and quality of their resultant actions. Although the entire crew should be involved in the decision-making and problem-solving process, the pilot in command is the key decision maker. Specific goals include the following:

(1) Under high workload, crewmembers rely on a pattern-recognition decision process to produce timely responses. They minimize deliberation consistent with the available decision time. Crewmembers focus on the most critical factors influencing their choice of responses. They efficiently prioritize their specific information needs within the available decision time.

(2) Under moderate to low workload, crewmembers rely on an analytical decision process to produce high-quality decisions. They encourage deliberation when time permits. To arrive at the most unbiased decision possible, crewmembers consider all important factors influencing their choice of action. They consistently seek all available information relative to the factors being considered.

d. Actions are prioritized, and workload is equitably distributed. This quality addresses the effectiveness of time and workload management. It assesses the extent to which the crew, as a team, avoids distractions from essential activities, distributes and manages workload, and avoids individual task overload. Specific goals include the following:

(1) Crewmembers are always able to identify and prioritize competing tasks. They never ignore flight safety and other high-priority tasks. They appropriately delay low-priority tasks until those tasks do not compete with more critical tasks. Crewmembers consistently avoid nonessential distractions so that these distractions do not impact on task performance.

(2) The pilot in command actively manages the distribution of tasks to prevent overloading any crewmember, especially during critical phases of flight. Crewmembers watch for workload buildup on others and react quickly to adjust the distribution of task responsibilities.

e. Unexpected events are managed effectively. This quality addresses the crew’s performance under unusual circumstances that may involve high levels of stress. Both the technical and managerial aspects of coping with the situation are important. Specific goals include the following:

(1) Crew actions reflect extensive rehearsal of emergency procedures in prior training and pre-flight planning and rehearsal. Crewmembers coordinate their actions and exchange information with minimal verbal direction from the pilot in command. They respond to the unexpected event in a composed, professional manner.

(2) Each crewmember appropriately or voluntarily adjusts individual workload and task priorities with minimal verbal direction from the pilot on command. The pilot in command ensures each crewmember is used effectively when responding to the emergency and that the workload is efficiently distributed.

f. Statements and directives are clear, timely, relevant, complete, and verified. This quality refers to the completeness, timeliness, and quality of information transfer. It includes the crew’s use of standard terminology and feedback techniques to verify information transfer. Emphasis is on the quality of instructions and statements associated with navigation, obstacle clearance, and instrument readouts. Specific goals include the following:

(1) Crewmembers consistently make the required callouts. Their statements and directives are always timely.

(2) Crewmembers use standard terminology in all communications. Their statements and directives are clear and concise.

(3) Crewmembers actively seek feedback when they do not receive acknowledgment from another crewmember. They always acknowledge understanding intent and request clarification when necessary.

g. Situational awareness is maintained. This quality addresses the extent to which crewmembers keep each other informed about the status of the aircraft and the flight request Information reporting helps the aircrew maintain a high level of situational awareness. The information reported includes aircraft position and orientation, equipment and personnel status, environmental conditions, and changes to flight request objectives. Awareness of the situation by the entire crew is essential to safe flight and effective crew performance. Specific goals include the following:

(1) Crewmembers routinely update each other and highlight and acknowledge changes. They take personal responsibility for scanning the entire flight environment, considering their assigned workload and assigned scan sectors.
(2) Crewmembers actively discuss conditions and situations that can compromise situational awareness. These include, but are not limited to, stress, boredom, fatigue, and anger.

h. Decisions and actions are communicated and acknowledged. This quality addresses the extent to which crewmembers are kept informed of decisions made and actions taken by another crewmember. Crewmembers should respond verbally or by appropriately adjusting their behaviors, actions, or control inputs to clearly indicate that they understand when a decision has been made and what it is. Failure to do so may confuse crews and lead to uncoordinated operations. Specific goals include the following:

(1) Crewmembers announce decisions and actions, stating their rationale and intentions as time permits. The pilot monitoring verbally coordinates the transfer of or inputs to controls before action.

(2) Crewmembers always acknowledge announced decisions or actions and provide feedback on how these decisions or actions will affect other crew tasks. If necessary, they promptly request clarification of decisions actions.

i. Supporting information and actions are sought from the crew. This quality addresses the extent to which supporting information and actions are sought from the crew by another crewmember, usually the pilot in command. Crewmembers should feel free to raise questions during the flight regarding plans, revisions to plans, actions to be taken, and the status of key flight request information. Specific goals include the following:

(1) The pilot in command encourages crewmembers to raise issues or offer information about safety or the flight. Crewmembers anticipate impending decisions and actions and offer information as appropriate.

(2) Crewmembers always request assistance from others before they become overloaded with tasks or before they must divert their attention from a critical task.

j. Crewmember actions are mutually “cross-monitored.” This quality addresses the extent to which a crew uses cross-monitoring as a mechanism for breaking error chains that lead to accidents or degraded performance. Crewmembers must be capable of detecting each other’s errors. Such redundancy is particularly important when crews are tired or overly focused on critical task elements and thus more prone to make errors. Specific goals include the following:

(1) Crewmembers acknowledge that crew error is a common occurrence and the active involvement of the entire crew is required to detect and break the error chains that lead to accidents. They constantly watch for crew errors affecting flight safety or performance. They monitor their own performance as well as that of others. When they note an error, they quickly and professionally inform and assist the crewmember committing error.

(2) The crew thoroughly discusses the two-challenge rule before executing the flight. When required, they effectively implement the two-challenge rule with minimal compromise to flight safety.

Note: The two-challenge rule allows one crewmember to automatically assume the duties of another crewmember who fails to respond to two consecutive challenges. For example, the pilot flying becomes fixated, confused, task overloaded, or otherwise allows the aircraft to enter an unsafe position or attitude. The pilot monitoring first asks the pilot on the controls if he/she is aware of the aircraft position or attitude. If the pilot flying does not acknowledge this challenge, the pilot monitoring issues a second challenge. If the pilot flying fails to acknowledge the second challenge, the pilot monitoring assumes control of the aircraft.

k. Supporting information and actions are offered by the crew. This quality addresses the extent to which crewmembers anticipate and offer supporting information and actions to the decision maker, usually the pilot in command, when apparently a decision must be made, or an action taken. Specific goals include the following:

(1) Crewmembers anticipate the need to provide information or warnings to the pilot in command or pilot flying during critical phases of the flight. They provide the required information and warnings in a timely manner.

(2) Crewmembers anticipate the need to assist the pilot in command or pilot flying during critical phases of flight. They provide the required assistance when needed.

l. Advocacy and assertion are practiced. This quality concerns the extent to which crewmembers are proactive in advocating a course of action they consider best, even when others may disagree. Specific goals include the following:

(1) While maintaining a professional atmosphere, crewmembers state the rationale for their recommended plans and courses of action when time permits. They request feedback to make sure others have correctly understood their statements or rationale. Time permitting, other crewmembers practice good listening habits; they wait for the rationale before commenting on the recommended plans or courses of action.

(2) The pilot in command actively promotes objectivity in the cockpit by encouraging other crewmembers to speak up despite their experience. Other crewmembers do not hesitate to speak up when they disagree; they understand that experienced aviators can sometimes commit errors or lose situational awareness. Every member of the crew displays a sense of responsibility for adhering to flight regulations, operating procedures, and safety standards.

m. Team-level after-action reviews are conducted. This quality addresses the extent to which crewmembers review and critique their actions during or after a flight segment, during periods of low workload, or during the debriefing. Specific goals include the following:

(1) The crew critiques major decisions and actions. They identify options and factors that should have been discussed and outline ways to improve crew performance in future flights.

(2) The critique of crew decisions and actions is professional. “Finger pointing” is avoided; the emphasis is on education and improving crew performance.

**3-5. Crew Coordination Objectives.** The crew coordination elements and basic qualities are measured to determine if the objectives of the crew coordination program have been met. The objectives of the program have been defined by five crew coordination objectives. The five objectives are follows:

a. Establish and maintain team relationships. Establish a positive working relationship that allows the crew to communicate openly and freely and to operate in a concerted manner.

b. Plan and Rehearse the flight request. Explore, in concert, all aspects of the flight request and analyze each segment for potential hazards.

c. Establish and maintain workloads. Manage workload in an effective and efficient manner with the redistribution of task responsibilities as the situation changes.

d. Exchange information. Establish crew communications using effective patterns and techniques that allow for the flow of essential data between crewmembers.

e. Cross-monitor performance. Cross-monitor each other's actions and decisions to reduce the likelihood of errors impacting performance and safety.

**3-6. Standard Crew Terminology.** To enhance communication and crew coordination, crews should use words or phrases that are understood by all participants. They must use clear, concise terms that can be easily understood and complied with in an environment full of distractions. Operator's manuals contain standard terminology for items of equipment. Below is a list of other standard words and phrases that crewmembers may use.

| | |
|---|---|
| Break | immediate action command to perform an emergency maneuver to deviate from the present ground track; will be followed by the word "right" or "left." |
| Call out | command by the pilot flying for a specified procedure to be read from the checklist by the other crewmember. |
| Clear | no obstacle present to impede aircraft movement along the intended ground track. Will be preceded by the word "nose," "tail," or "aircraft" and followed by the direction (for example, "left," "right," "slide left," or "slide right"). Also indicates that ground personnel are authorized to approach the aircraft. |
| Come up/down | command to change altitude up or down; normally used to control masking and unmasking operations. |
| Contact | establish communication with... (followed by the name of the element). |
| Controls | refers to aircraft flight controls. |
| Correct | confirms a statement as being accurate or right. Do not use the word "right" to indicate correct. |
| Drifting | an alert of the unintentional or undirected movement of the aircraft; will be followed by the word "right," "left," "backward," or "forward." |
| Egress | command to make an emergency exit from the aircraft; will be repeated three times in a row. |
| Execute | initiate an action. |
| Expect | anticipate further instructions or guidance. |
| Fire light | announcement of illumination of the master fire warning light. |
| Go ahead | proceed with your message. |
| I have the controls | used as a command or announcement by the pilot assuming control of the flight controls. |
| Inside | primary focus of attention is inside the cockpit. |
| In sight | preceded by the word "traffic," "target," "obstacle," or descriptive term. Used to confirm traffic, target, or obstacle is positively seen or identified. |
| Maintain | command to continue or keep the same. |
| Move forward/backward | command to hover the aircraft forward or backward; followed by distance in feet. Also used to announce intended forward or backward movement. |
| Negative | incorrect or permission not granted. |
| Negative contact | unable to establish communication with. . . (followed by name of element). |
| No joy | target, traffic, or obstruction not positively seen or identified. |
| Outside | primary focus of attention is outside the aircraft. |
| Right | used to indicate a direction only, not to be used in place of "correct." |
| Roger | message received and understood. |
| Say again | repeat your transmission. |

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| Slide left/right | command to hover the aircraft left or right; will be followed by distance. Also used to announce intended “left” or “right” movement. |
| Slow down | command to reduce ground speed. |
| Speed up | command to increase ground speed. |
| Stand by | wait; duties of a higher priority are being performed and request cannot be complied with at this time. |
| Stop | command to go no further; halt present action. |
| Tally | target, traffic, or obstruction positively seen or identified; will be followed by a repeat of the word “target,” “traffic,” or “observation” and the clock position. |
| Traffic | refers to friendly aircraft that present a potential hazard to the current route of flight; will be followed by an approximate clock position and the distance from your aircraft with a reference to altitude (high or low). |
| Transfer of controls | positive three-way transfer of the flight controls between the pilot (for example, “I have the controls,” “You have the controls,” and “I have the controls”). |
| Turn | command to deviate from present ground track; will be followed by words "right" or "left," specific heading in degrees, a bearing ("Turn right 30 degrees"), or instructions to follow a well-defined contour ("Follow the draw at 2 o'clock"). |
| Unable | indicates the inability to comply with a specific instruction or request. |
| Up on | indicates primary radio selected; will be followed by radio position numbers on the intercommunication system (ICS) panel; (for example, “Up on 1, up on 3”). |
| Wilco | I have received your message, I understand, and I will comply. |
| You have the controls | used as a command or announcement by the pilot relinquishing the flight controls. |

**3-7. Initial Ground and Flight Training Program (Pilot).** A pilot must complete initial ground and flight training before performing pilot duty.

a. Ground training. Topics consist of:

- LWBA Mission and Organization
- Certificates and Documents
- Maintenance, Forms, and Records
- Limitations
  - Experimental Airworthiness Certificate and Operating Limitations
  - LHFE Conditions and Limitations
  - Limitations Operators Manual Chapter 5
- Emergency Procedures
  - Operators Manual Chapters 2 & 9
- Weight and Balance
- Performance Planning
- Helicopter Operational Safety Considerations
- Special Emphasis Areas
- Crew Resource Management

b. Flight training. Tasks selected from FAA-S-8081-16B Commercial Pilot Practical Test Standards (PTS) for Rotorcraft (Helicopter and Gyroplane) or successor Airman Certification Standards (ACS) when published.

c. Training Circular (TC) 1-211 Aircrew Training Manual Utility Helicopter, UH-1H/V Series provides task description specific to the UH-1H/V helicopter. This manual will be used to support PTS/ACS task performance.

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|---|---|
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| | Task C: Weather Information |
| | Task D: Cross-Country Flight Planning |
| | Task E: National Airspace System |
| | Task F: Performance and Limitations (reference task 1010 UH-1 ATM) |
| | Task G: Operation of Systems |
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| | Task J: Lighting and Equipment for Night Flying |
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| | Task D: Runway Incursion Avoidance |
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| | |

| Area of Operation | |
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| | Task A: Vertical Takeoff and Landing (reference task 1028 UH-1 ATM) |
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| | Task A: Normal and Crosswind Takeoff and Climb |
| | Task B: Normal and Crosswind Approach |
| | Task C: Maximum Performance Takeoff and Climb (reference task 1010 and task 2095 UH-1 ATM) |
| | Task D: Steep Approach |

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| | Task F: Shallow Approach and Running/Roll-On Landing (skid shoes required) (reference task 1066 UH-1 ATM) |
| | Task G: Go-Around |
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| | Task A: Rapid Deceleration |
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| | Task F: Anti-torque Failure |
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| X | Postflight Procedures |
| | Task: After Landing and Securing |
| | |

d. Initial pilot qualification requires successful completion of initial training. This normally requires three to six flights as determined by the flight instructor.

**3-8. Upgrade Training** supports progression from pilot to pilot in command.

a. Meet LWBA pilot in command requirements. Possess at least an FAA commercial pilot certificate with a rotorcraft – helicopter category and class rating, class 2 medical certification commensurate with privileges exercised, and meet insurance policy aeronautical experience requirements.

b. Logged at least 1500 hours in helicopters, 500 hours in turbine helicopters, and 100 hours in UH-1H.

c. Complete LWBA initial or recurrent training.

d. Current in category and class.

e. Current flight review

f. Complete a pilot in command proficiency check.

g. Recommended by the LWBA operations officer

h. Approved by LWBA president.

i. Named as a pilot in command on LWBA insurance policy.

**3-9. Recurrent Ground and Flight Training Program (pilot).** Completion of annual recurrent ground and fight training is required to continue performing designated pilot duty. In order to continue performing pilot duty, annual recurrent training must be completed not later than 12 calendar months from previous initial or recurrent training. Pilots who have not completed annual or recurrent training within the 12-calendar month time period may not perform pilot duty until they complete the training.

a. Ground training. Topics consist of:

- Certificates and Documents
- Limitations
- Emergency Procedures
- Weight and Balance
- Performance Planning
- Experimental Airworthiness Certificate and Operating Limitations
- Helicopter Operational Safety Considerations
- Special Emphasis Areas
- Crew resource management

b. Flight training. Tasks selected from FAA-S-8081-16B Commercial Pilot Practical Test Standards (PTS) for Rotorcraft (Helicopter and Gyroplane) or successor Airman Certification Standards (ACS) when published.

c. Training Circular (TC) 1-211 Aircrew Training Manual Utility Helicopter, UH-1H/V Series provides task description specific to the UH-1H/V helicopter. This manual will be used to support PTS/ACS task performance.

| Area of Operation | |
|---|---|
| I | Preflight Preparation |
| | Task A: Certificates and Documents |
| | Task B: Airworthiness Requirements |
| | Task C: Weather Information |
| | Task D: Cross-Country Flight Planning |
| | Task E: National Airspace System |
| | Task F: Performance and Limitations (reference task 1010 UH-1 ATM) |
| | Task G: Operation of Systems |
| | Task H: Aeromedical Factors |
| | Task I: Physiological Aspects of Night Flying |
| | Task J: Lighting and Equipment for Night Flying |
| | |
| II | Preflight Procedures |
| | Task A: Preflight Inspection |
| | Task B: Cockpit Management |
| | Task C: Engine Starting and Rotor Engagement |
| | Task D: Runway Incursion Avoidance |
| | Task E. Before Takeoff Check |

**3-10. Crew Chief (CE) Initial and Recurrent Training Program.** A crew chief must complete initial ground and flight training before performing crew chief duty. Completion of annual recurrent ground and fight training is required to continue performing designated crew chief duty. To continue performing crew chief duty, annual recurrent training must be completed not later than the 12 calendar months from previous initial or recurrent training. A crew chief who has not completed annual or recurrent training within 12 calendar months from previous initial or recurrent training may not perform crew chief duty until annual recurrent training is completed.

a. Ground training. Topics consist of:

- LWBA Mission and Organization
- Certificates and Documents
- Maintenance, forms, and records
- Limitations
  - Experimental Airworthiness Certificate and Operating Limitations
  - LHFE Conditions and Limitations
  - Limitations Operators Manual Chapter 5
- Emergency Procedures
- Crew Resource Management

b. Flight training. Consists of selected tasks listed below from Training Circular (TC) 1-211 Aircrew Training Manual Utility Helicopter, UH-1H/V Series.

1000 Participate in a crew briefing

1002 Conduct passenger briefing
1020 Prepare aircraft for flight
1022 Perform preflight inspection
1024 Perform before starting engine through before leaving helicopter checks
1026 Maintain airspace surveillance
1048 Perform fuel management procedures
1062 Perform slope operations
1070 Respond to emergencies
1262 Participate in a crew-level after-action review

**3-11. Requalification Training.** Requalification training requires completion of annual recurrent ground and flight training.

**3-12. Differences Ground and Flight Training.** LWBA will publish a “Differences” curriculum should LWBA acquire another helicopter other than a UH-1H/V helicopter.

**3-13. Transition Ground and Flight Training.** LWBA will publish a “Transition” curriculum should LWBA acquire a helicopter requiring transition training.

**3-14. Hazardous Materials (HAZMAT).** LWBA does not handle or transport hazardous material.

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# Appendix A - Forms

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| PILOT RECORD | | | | |
|---|---|---|---|---|
| | | | | |
| Name (print last, first, middle) | | Phone | Email Address | |
| **Home address:** | | **Medical certificate** | | |
| | | Class: | Date: | |
| | | Limitations: | | |
| | | Restrictions: | | |
| **Certificates and Ratings** | | | | |
| Pilot Certificate No: | | Date Issued: | | |
| Certificates:<br>☐ Private<br>☐ Commercial<br>☐ ATP-Restricted<br>☐ ATP<br>☐ Flight Instructor - Airplane<br>☐ Flight Instructor - Helicopter<br>(Do not check flight instructor if certificate is expired) | | Ratings:<br>☐ Airplane ☐ Instrument<br>☐ Helicopter ☐ Instrument | | |
| **Flight Hours** | | | | |
| Airplane hours | | Helicopter turbine hours | | |
| Helicopter hours | | Total UH-1H hours | | |
| Total hours | | | | |
| **U.S. Military Experience** | | | | |
| Aeronautical designation: | | Branch: | | |
| Instructor pilot: | | Aircraft: | | |
| Maintenance test pilot: | | Aircraft: | | |
| **Accident History** | | | | |
| Have you ever been involved in an aircraft accident defined by 49 CFR 830?<br>If so, please explain on separate sheet of paper | | | | |
| **Pilot Certification** | | | | |
| I certify that the information I have provided on this record is true and complete to the best of my knowledge. | | | | |
| Pilot's Signature: | | Date: | | |

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| PILOT AND CREW CHIEF TRAINING RECORD | | | |
|---|---|---|---|
| | | | |
| Name (print last, first) | | Phone | Email Address |
| ☐ Pilot ☐ Crew Chief | | ☐ Initial Training ☐ Recurrent Training | |
| Location: | | Aircraft ID: | |

| Date | Subject, written test, or flight instruction | Hours |
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| Instructor providing training or testing | | |
|---|---|---|
| | | |
| Printed name | Signature | Certificate number |
| **Verification of person receiving training** | | |
| | | |
| Printed name | Signature | Certificate number |

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**Pilot's Name** _____ **Date** _____

**A/C MK:** _____ **MDL:** _____ **N:** _____

| Area of Operation and Tasks | | | REMARKS |
|---|---|---|---|
| **I. PREFLIGHT PREPARATION** | | | |
| Certificates & Documents | X | | |
| Airworthiness Requirements | X | | |
| Weather Information | X | | |
| Cross-Country Flight Planning | X | | |
| National Airspace System | X | | |
| Performance and Limitations | X | | |
| Operation of Systems | X | | |
| Aeromedical Factors | X | | |
| Physiological Aspects of Night Flying | | | |
| Lighting & Equipment for Night Flying | | | |
| Certificates and Documents | | | |
| **II. PREFLIGHT PROCEDURES** | | | |
| Preflight Inspection | X | | |
| Cockpit Management | X | | |
| Engine Starting and Rotor Engagement | X | | |
| Runway Incursion Avoidance | X | | |
| Before Takeoff Check | X | | |
| **III. APRT.HELIPORT OPNS** | | | |
| Radio Comm & Light Signals | X | | |
| Traffic Patterns | X | | |
| Signs, Markings, & Lighting | X | | |
| **IV. HOVERING MANEUVERS** | | | |
| Vertical Takeoff and Landing | X | | |
| Slope Operations | X | | |
| Surface Taxi | | | |
| Hover Taxi | X | | |
| Air Taxi | X | | |

| | | | REMARKS |
|---|---|---|---|
| **V. T/Os, LDGs, GO-AROUNDS** | | | |
| Normal & Crosswind T/O & Climb | X | | |
| Normal & Crosswind Approach | X | | |
| Maximum Performance T/O & Climb | X | | |
| Steep Approach | X | | |
| Rolling Takeoff | | | |
| Shallow Apprch & Running Landing | X | | |
| Go-Around | X | | |
| **VI. PERFORMANCE MANEUVERS** | | | |
| Rapid Deceleration | X | | |
| Straight in Autorotation | X | | |
| 180° Autorotation | X | | |
| **VII. NAVIGATION** | | | |
| Pilotage and Dead Reckoning | X | | |
| Radio Navigation and Radar Services | X | | |
| Diversion | X | | |
| Lost Procedures | X | | |
| **VIII. EMERGENCY PROCEDURES** | | | |
| Power Failure at a Hover | X | | |
| Power Failure at Altitude | X | | |
| Systems and Equipment Malfunctions | X | | |
| Settling-With-Power | X | | |
| Low Rotor RPM Recovery | X | | |
| Anti-Torque Failure | D | | |
| Dynamic Rollover | D | | |
| Low G Conditions | D | | |
| Emergency Equip & Survival Gear | D | | |
| **IX. SPECIAL OPERATIONS** | | | |
| Confined Area Operation | X | | |
| Pinnacle/Platform Operations | X | | |
| **X. POST FLIGHT PROCEDURES** | | | |
| After Landing & Securing | X | | |

Initial and Recurrent Training Sequence

**Phase I. Introduction**

Ensure pilot is familiar with emergency exits, bathroom, and break area

Review pilot documents (airman and medical certificates)

Review purpose of training (initial or recurrent)

Discuss standards contained in Commercial Pilot Practical Test Standards for Rotorcraft (Helicopter and Gyroplane)

Perfection is not the standard

Oral questioning will continue throughout the practical test

Instructor will take notes for post flight debrief

**Outcomes:**

Recommendation to perform as Pilot or Pilot in Command or

Recommendation for additional proficiency training

**Phase II. Training**

Flight overview:

Required items: Ex. helmet/headset, & corrective lenses as appropriate

Airport locations runway use, hover & slope area nearby airport that may be used

Flight duration

Performance planning (maximum torque available, GO NO-GO data, & predicted hover

CRM – three-way positive control transfer, emergency procedure training

Risk level for flight

**Phase III. Post flight briefing**

Debrief in private

Highlight satisfactory performance items

Discuss areas requiring additional training

Discuss recommendations to LWBA leadership

## TASK PERFORMANCE CHECKLIST

**CE Name** _____ **Date** _____

**CFI Signature** _____ **CFI No** _____ **Exp Date** _____

| TASK | | COMPLETE |
|---|---|---|
| 1000 | Participate in a team briefing | |
| 1002 | Conduct passenger briefing | |
| 1020 | Prepare aircraft for flight | |
| 1022 | Perform preflight inspection | |
| 1024 | Perform before starting engine through before leaving helicopter checks | |
| 1026 | Maintain airspace surveillance | |
| 1048 | Perform fuel management procedures | |
| 1062 | Perform slope operations | |
| 1070 | Respond to emergencies | |
| 1262 | Participate in a crew-level after-action review | |
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**DATE:**

**TO:**

**FROM:**

**RE:** Flight Crew Designation

You are designated to perform flight crew duty as:

☐ Pilot in Command  Crew Chief ☐

This designation remains in effect contingent upon maintaining training and applicable medical certification requirements.

| | |
|---|---|
| LWBA Director of Standards/ Chief Pilot | LWBA President |

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